Claims:

1. An optical sensor for sensing a measurand, comprising:

an optical waveguide having an outer cladding and at least one inner core disposed therein which propagates light; and

a D-shaped portion of the optical waveguide having a generally D-shaped cross-section, wherein a property of the D-shaped portion changes in response to the measurand.

2. The optical sensor of claim 1, further comprising a layer disposed on a flat surface of the D-shaped portion, wherein the layer is sensitive to the measurand.

3. The optical sensor of claim 2, wherein the measurand includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals.

4. The optical sensor of claim 2, wherein the refractive index of the layer changes in response to a change in the measurand.

5. The optical sensor of claim 2, wherein the layer strains the D-shaped portion in response to a change in the measurand.

6. The optical sensor of claim 1, wherein a transverse outer dimension of the waveguide is greater than 0.3 millimeters.

7. The optical sensor of claim 1, wherein a strain applied to the sensor changes a polarization of the light.

8. An optical sensor for sensing a measurand, comprising:

a first D-shaped waveguide having a generally D-shaped cross-section;

a second D-shaped waveguide having a generally D-shaped cross-section, wherein the first and second D-shaped waveguides are optically coupled together; and

a layer disposed between the first and second D-shaped waveguides, the layer capable of changing thickness in response to the measurand.

9. The optical sensor of claim 8, wherein the first D-shaped waveguide has at least one first inner core disposed therein which propagates light in substantially a few spatial modes and the second D-shaped waveguide has at least one second inner core disposed therein which propagates light in substantially a few spatial modes.

10. The optical sensor of claim 8, wherein the measurand includes at least one member of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals.

11. The optical sensor of claim 8, wherein the first and second D-shaped waveguides include a plurality of cores.

12. A method of detecting a parameter using an optical sensor, comprising:

transmitting light through the optical sensor;

exposing a D-shaped portion of the optical sensor to the parameter, wherein the D-shaped portion provides a change in one or more properties of the light transmitted through the optical sensor in response to the parameter; and

detecting the one or more properties of the light transmitted through the optical sensor as a measure of the parameter.

13. The method of claim 12, wherein a layer sensitive to the parameter is disposed on a flat surface of the D-shaped portion.

14. The method of claim 13, wherein the parameter includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals.

15. The method of claim 13, wherein the refractive index of the layer changes in response to a change in the parameter.

16. The method of claim 13, wherein the layer strains the D-shaped portion in response to a change in the parameter.

17. The method of claim 12, wherein a transverse outer dimension of the sensor is greater than 0.3 millimeters.

18. The method of claim 12, wherein a strain applied to the sensor changes a polarization of the light.

19. The method of claim 12, wherein the D-shaped portion comprises a first D-shaped waveguide and a second D-shaped waveguide optically coupled together with the layer disposed between the first and second D-shaped waveguides.

20. The method of claim 19, wherein the first and second D-shaped waveguides include a plurality of cores.